

The efficacy of ankle taping on agility in amateur rugby union players

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Background: There is an abundance of literature documenting the prevalence of ankle injuries, from participation in sporting activities.^{1,2} In rugby union, epidemiological studies have reported that ankle injuries account for between 8% and 20% of all injuries.³ Additionally, it is documented within the literature that lateral ankle-ligament injury has a high reoccurrence rate with as many as 73% of athletes, experiencing recurrent lateral ankle sprains.^{1,2} Therefore, common practise for sports medicine professionals when returning an athlete to play, is the application of external ankle support for the reduction of injury.⁴

Studies have shown that following applications of tape, incidences of lateral ankle sprains reduce by 50% from 32.8 to 14.7 per 1000 exposures.⁵ However, looking at the current evidence the mechanisms of effect are still unknown.

It is hypothesised that the mechanism of effect, from the application of taping, is through the stimulation of the cutaneous mechanoreceptors, providing an afferent stimulus and enhancing the proprioceptive feedback loop, therefore, reducing injury.⁵

Objective: To examine the efficacy of self-adherent ankle tape in improving agility and proprioception in amateur rugby union players.

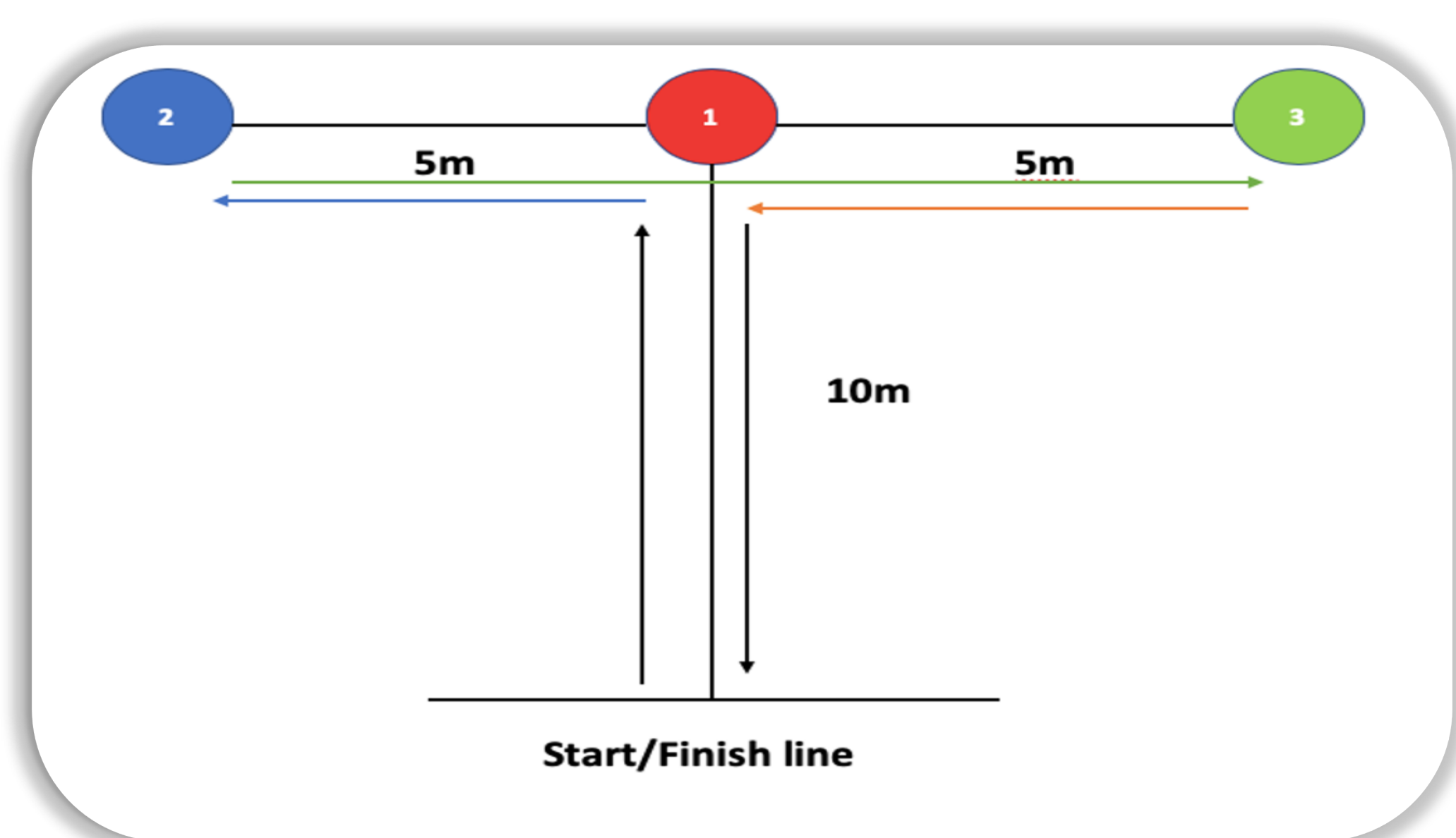


Figure 1. Agility T-test course diagram



Figure 2. Tape application

Method: Design: Randomised cross over design that involved measurement of agility under both taped and untaped conditions. **Setting:** Amateur rugby union. **Participants:** Sixteen male amateur rugby union players volunteered to take part in the research study, with a mean age of 27.0 ± 4.4 years, height = 182.7 ± 11.0 cm, mass = 94.9 ± 15.4 kg. Ethical approval for the study was granted by UWTSD. **Intervention:** Application of zinc oxide tape using a close basket wave technique (figure 2) to both ankles. **Main Outcome Measurements:** Agility t-test (figure 1) was used to assess agility both under taped and untaped conditions.

Results: A paired-samples t-test was conducted to evaluate the impact of the application of ankle taping on agility test scores. There was no statistically significant difference observed between the untaped condition ($M=12.6$, $SD=1.3$) and taped condition [$M=12.4$, $SD=1.1$, $t(15)=0.812$, $P>0.05$].

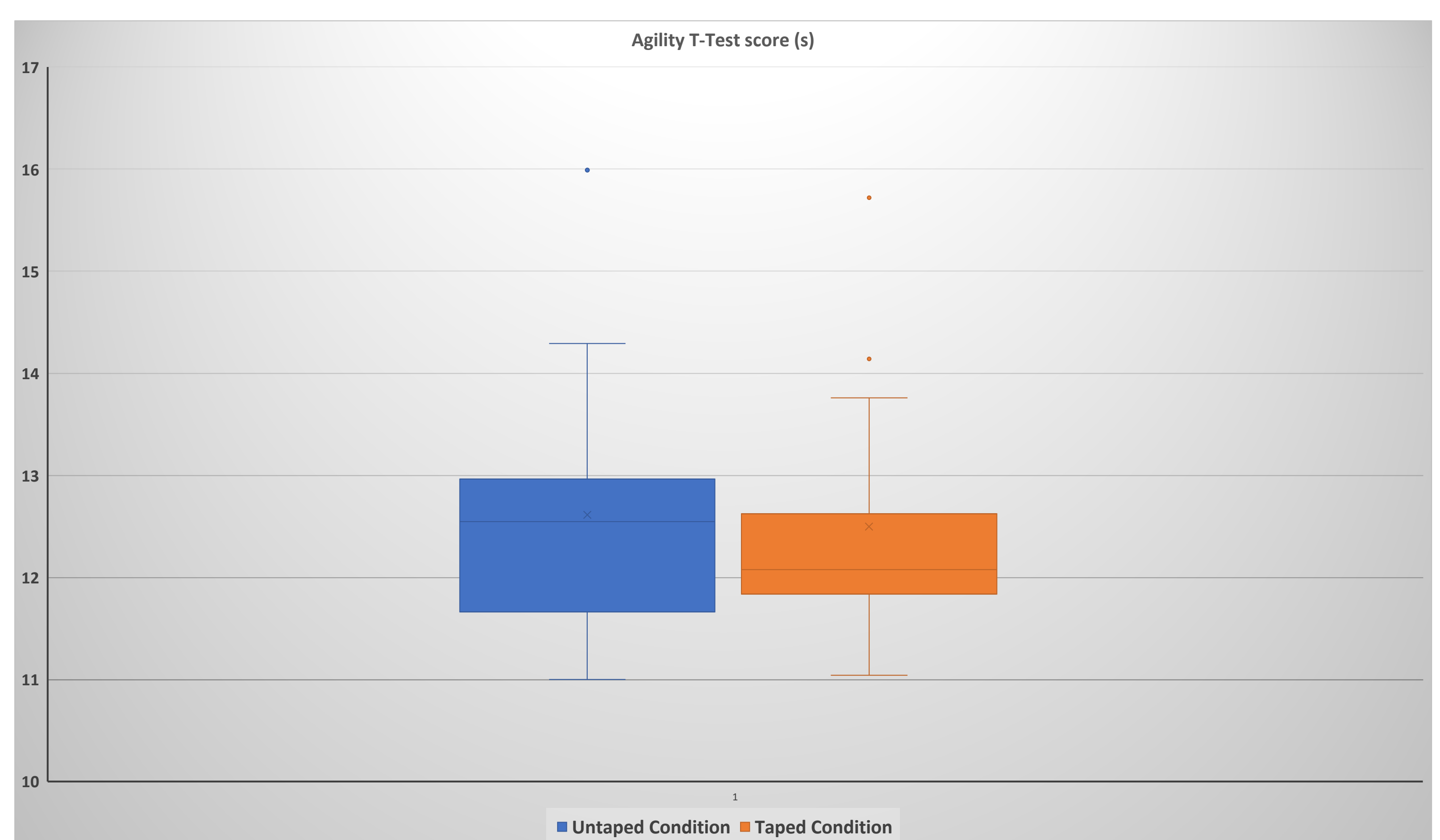


Figure 3. A box plot illustrating the results of both taped and untaped agility T-test scores

Conclusion: The athletes' performance on the agility T-test was not significantly improved following the application of zinc oxide tape. This study concludes that agility in amateur rugby players is not increased following the application of tape. However, the study only measured one of the components of proprioception (agility). Therefore, further research is required to investigate other more robust methods of testing proprioception, to investigate the effect of taping on proprioception.

References:

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